

Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An electrical control unit for an automobile comprising:

a microcomputer which controls equipment installed in automobile,
an input circuit which passes an electric signal from the outside to said microcomputer[[],];

a driver circuit which outputs the electric signal output from said microcomputer outside[[],]; and

a power supply circuit which supplies power supply to said microcomputer ~~computer~~,
wherein

said power supply circuit is configured to receive a wake-up signal from the outside, and begin supplying power to the microcomputer, and

said microcomputer is awakened by the stating of the supplying of power from the power supply ~~started by shifting said power supply circuit from an inert state to an active state to generate the voltage by which said microcomputer is operated by a wake-up signal from the circuit other than the ignition switch even when the ignition switch of said automobile is cut off, and the predetermined processing is executed by the microcomputer.~~

2. (Currently Amended) The ~~An~~ electrical control unit ~~for an automobile~~ according to claim 1, wherein

said wake-up signal is a signal transmitted at least from either the electrical control unit for the a keyless entry, or an electrical control unit for the

door lock management by which it can be perceived whether an operator ~~the car owner~~ gets on or have gotten on the automobile concerned.

3. (Currently Amended) ~~The~~ An electrical control unit ~~for an automobile~~ according to claim 2, wherein

said electrical control unit for an automobile starts to energize at least one of an airflow sensor, an O₂ sensor, a fuel pump and various heater devices, which are a part of said equipment, before performing the processing by which an said engine is started after said wake-up signal is received and the electrical control unit is started.

4.-5. (Cancelled)

6. (Currently Amended) ~~The~~ An electrical control unit ~~for an automobile~~ according to claim ~~5~~ 1, wherein

after said microcomputer awakens ~~starts~~, said microcomputer performs either of the monitor of the state of various equipment of the automobile concerned and the control of various equipment if necessary.

7. (Currently Amended) ~~The~~ An electrical control unit ~~for an automobile~~ according to claim 1, wherein

said microcomputer ~~make~~ causes said power supply circuit to become inert after the predetermined processing is executed.

8. (Currently Amended) ~~The~~ An electrical control unit ~~for an automobile~~ according to claim 19 ~~[[4]]~~, wherein

when ignition switch is connected, a ~~the~~ period after the last ignition switch connection is cut off is calculated by using the value of said counter, ~~the~~ an amount of the fuel leakage from the injector for the period is calculated, and ~~the~~ an amount of the fuel injection at the engine starting is corrected by the

calculation result.

9. (Currently Amended) ~~The~~An electrical control unit ~~for an automobile~~ according to claim 19 [[4]] wherein

said automobile concerned is controlled by estimating the degree of the deterioration with age of various equipment of the automobile concerned by using the value of said counter.

10. (Currently Amended) An electrical control unit for an automobile comprising:

a microcomputer which controls equipment installed in automobile,
an input circuit which passes an electric signal from the outside to said microcomputer,

a driver circuit which outputs the electric signal output from said microcomputer outside, and

a power supply circuit which supplies power supply to said microcomputer ~~computer~~,

wherein

said power supply circuit is configured to receive a wake-up signal from the outside, and to begin supplying power to the microcomputer, and said microcomputer is awakened by the stating of the supplying of power from the power supply circuit ~~a semiconductor IC integrated the following components; and wherein said power supply circuit comprises;~~

a first regulator which generates the voltage to operate said microcomputer by inputting said ignition switch signal or said wake-up signal,

a second regulator which operates even when said ignition switch is cut off,

an OR circuit activating said first regulator by using either the ignition switch signal or one of said plural wake-up signals,

a start factor determining means to distinguish whether said first regulator is activated by which signal of the ignition switch signal and one of plural wake-up signals,

a communication device to transmit the start factor determined by said start factor determining device ~~driver which transmits and receives the communication signal with an outside electrical control unit through a communications line,~~

~~a latch circuit to latch the wake-up signals transmitted from the outside electrical control unit through said communications line,~~

~~a reset circuit which generates a reset signal to said microcomputer,~~

~~a watchdog timer to prevent the runaway of the active program in said microcomputer, and~~

~~a serial communications module which communicates serially with said microcomputer.~~

11. (Cancelled)

12. (Currently Amended) The ~~An~~ electrical control unit ~~for an automobile~~ according to claim 10, wherein further including a said-semiconductor IC which includes

a counter, a wake-up timing setting register, and a comparator, and

said timer module which outputs the wake-up signal when the value of said counter reaches the value set in said wake-up timing setting register beforehand is integrated therewith.

13. (Currently Amended) The ~~An~~ electrical control unit ~~for an automobile~~ according to claim 12, wherein

said microcomputer sets the value of said wake-up timing setting register of said timer module through the serial communications module of said semiconductor IC, or said timer module transmits the counter value at that time

to said microcomputer.

14. (Currently Amended) The ~~An~~ electrical control unit ~~for an automobile~~ according to claim 19 ~~[[4]]~~, wherein

said power supply for making said timer module operate even for the period when the power supply is not supplied from the outside to said electrical control unit for an automobile is provided in said electrical control unit for the automobile.

15. (Currently Amended) The ~~An~~ electrical control unit ~~for an automobile~~ according to claim 14, wherein

said power supply is supplied to said timer module through the power supply switch means, and said switch means supplies a current to said timer module either from said outside power supply for the period when the power is supplied from the outside to said electrical control unit for the automobile, or from the power supply provided in said electrical control unit for the automobile for the period when the power is not supplied from the outside.

16. (Currently Amended) The ~~An~~ electrical control unit ~~for an automobile~~ according to claim 12, wherein

said electrical control unit for the automobile provides inside with the power supply to operate at least said timer module for the period when the power supply is not supplied from the outside,

said semiconductor IC has the power supply switch means, and

said switch means supplies a current to said timer module either from said outside power supply for the period when the power supply is supplied from the outside to said electrical control unit for the automobile, or from the power supply provided in said electrical control unit for the automobile for the period when the power supply is not supplied from the outside.

17. (Currently Amended) The ~~An~~ electrical control unit ~~for an automobile~~ according to claim 14, wherein

said power supply to operate said timer module is a lithium electric cell battery.

18. (Currently Amended) The ~~An~~ electrical control unit ~~for an automobile~~ according to claim 16, wherein

said power supply to operate said timer module is a lithium electric cell battery.

19. (New) The electrical control unit according to claim 1, wherein said wake-up signal is a signal output by a timer module built into said electrical control unit for the automobile.

20. (New) The electrical control unit according to claim 1, wherein said wake-up signal is a signal output by further electrical control unit.

21. (New) The electrical control unit according to claim 19, wherein said timer includes a counter, a wake-up timing setting register, and a comparator, and when a value of said counter reaches a value set in said wake-up timing setting register beforehand, said wake-up signal is output.

22. (New) The electrical control unit according to claim 10, wherein said power supply circuit further comprises a latch circuit to latch the wake-up signals transmitted from outside the electrical control unit through said communications device.

23. (New) The electrical control unit according to claim 10, wherein said power supply circuit further comprises a reset circuit which generates a reset signal to said microcomputer.

24. (New) The electrical control unit according to claim 10, wherein said power supply circuit further comprises a watchdog timer to prevent runaway of an active program in said microcomputer.

25. (New) The electrical control unit according to claim 10, wherein said power supply circuit further comprises a serial communications module which communicates serially with said microcomputer.

26. (New) An electrical control unit for an automobile comprising:
a microcomputer which controls equipment installed in automobile,
an input circuit which passes an electric signal from the outside to said microcomputer,
an output circuit, for outputting an electric signal output from said microcomputer, and
a power supply circuit which supplies power supply to said microcomputer, wherein
said power supply circuit is a semiconductor IC configured to receive a wake-up signal from the outside, and to begin supplying power to the microcomputer, and said microcomputer is awakened by the stating of the supplying of power from the power supply circuit.

27. (New) The electrical control unit according to claim 26, wherein said semiconductor IC includes a counter, a wake-up timing setting register, and a comparator, and a timer module which outputs the wake-up signal when the value of said counter reaches the value set in said wake-up timing setting register beforehand is integrated therewith.

28. (New) The electrical control unit according to claim 27, wherein
said microcomputer sets the value of said wake-up timing setting register

of said timer module through the serial communications module of said semiconductor IC, or said timer module transmits the counter value at that time to said microcomputer.

29. (New) The electrical control unit according to claim 26, wherein

said power supply is supplied to said timer module through the power supply switch means, and said switch means supplies a current to said timer module either from said outside power supply for the period when the power is supplied from the outside to said electrical control unit for the automobile, or from the power supply provided in said electrical control unit for the automobile for the period when the power is not supplied from the outside.

30. (New) The electrical control unit according to claim 26, wherein

said electrical control unit for the automobile provides inside with the power supply to operate at least said timer module for the period when the power supply is not supplied from the outside,

said semiconductor IC has the power supply switch means, and said switch means supplies a current to said timer module either from said outside power supply for the period when the power supply is supplied from the outside to said electrical control unit for the automobile, or from the power supply provided in said electrical control unit for the automobile for the period when the power supply is not supplied from the outside.

31. (New) The electrical control unit according to claim 26 wherein said semiconductor IC integrates the following components:

a first regulator which generates the voltage to operate said microcomputer by inputting said ignition switch signal or said wake-up signal,

a second regulator which operates even when said ignition switch is cut off,

an OR circuit activating said first regulator by using either the ignition switch signal or one of said plural wake-up signals,

a start factor determining means to distinguish whether said first regulator is activated by which signal of the ignition switch signal and one of plural wake-up signals, and

a communication device to transmit the start factor determined by said start factor determining device